



# QUASIMEME

Quality assurance of information  
for marine environmental monitoring

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## Certificate of Analysis



PSP shellfish toxins

REFERENCE MATERIAL

BT12 sample 22

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## Certificate of Analysis BT12 22

### General Information

In this report an overview is given of analytical data for this sample collected in our proficiency testing program. The consensus values are calculated using a robust statistical model. With this NDA model mean and standard deviation are calculated using all reported data when at least 4 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

This report is divided into two sections: Consensus Values and Indicative Values. The division is made on the reliability of the data. Consensus Values are based on at least 10 results while the relative uncertainty is smaller than 6.25%. Indicative Values are based on a relative uncertainty of maximum 35% with at least 4 and less than 10 results or a relative uncertainty higher than 6.25%.

For each determinand the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation) and the uncertainty in the assigned value. The confidence limits (at 95 % probability) are calculated for these determinands.

The results of each determinand is expressed on a wet weight basis.

### Sample information

QUASIMEME reference materials cover a range of natural Shellfish toxins species from contaminated waters from the North Sea and/or Mediterranean.

This BT12 sample 22 of Mussel (*Perna canaliculus*) from Marine Institute, Galway, Ireland is prepared for the QUASIMEME proficiency programs. The results on which the values in this report are based were taken from the periods given in the following table.

Year.Round	Program	Sample Round Id
2023.1	BT12	QST339BT
2021.1	BT12	QST304BT



### Consensus Values BT12

Method: Toxins(SF) - BT12

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
STX	µmol/kg	0.952	0.2618	27.5	64	0.989	0.1600	0.0409	0.887	- 1.02
GTX-2	µmol/kg	5.19	0.622	12.0	21	5.21	0.369	0.170	4.91	- 5.47
GTX-3	µmol/kg	1.57	0.301	19.2	21	1.56	0.164	0.082	1.44	- 1.71
GTX-5	µmol/kg	5.55	1.999	36.0	58	5.75	1.088	0.328	5.03	- 6.08
Total toxicity	µgSTXdiHCleq./kg	2592	705.3	27.2	63	2614	426.6	111.1	2414	- 2769
GTX-2,3	µmol/kg	5.46	1.601	29.3	43	5.51	1.032	0.305	4.97	- 5.95



### Indicative Values BT12

#### Method: Toxins(SF) - BT12

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
GTX-4	µmol/kg	-	-	-	5	0.0500	0.0	-	-	-	-
GTX-6	µmol/kg	-	-	-	5	0.0800	0.0	-	-	-	-
C1	µmol/kg	4.91	1.198	24.4	18	5.06	0.628	0.353	4.31	-	5.50
C2	µmol/kg	1.32	0.455	34.6	19	1.22	0.417	0.131	1.10	-	1.53
dc-STX	µmol/kg	0.660	0.2895	43.8	57	0.680	0.1989	0.0479	0.584	-	0.737
dc-GTX2	µmol/kg	0.722	0.1722	23.9	20	0.732	0.1255	0.0481	0.642	-	0.802
dc-GTX3	µmol/kg	0.220	0.0820	37.2	18	0.221	0.0355	0.0242	0.180	-	0.261
GTX-1,4	µmol/kg	1.47	0.814	55.3	23	1.62	0.622	0.212	1.12	-	1.82
C-1,2	µmol/kg	4.77	1.596	33.5	42	4.95	0.998	0.308	4.27	-	5.26
dc-GTX-2,3	µmol/kg	0.652	0.2688	41.2	34	0.650	0.1780	0.0576	0.558	-	0.746